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ABSTRACT

This study sought to analyze the process of learning to teach a course in educational psychology, focusing on the role of experience and expertise in facilitating or inhibiting the process. Using action research methodology, correspondence between the instructor and a colleague on the process of learning to teach the course was analyzed to examine the instructor's assumptions about course design, teaching methods, student assignments, time constraints, and attitudes toward the course. Student and instructor journals were also examined to determine how the students learned various topics in the course and how the instructor's attitudes toward the course developed over the semester. Reflections of the instructor and her colleague are discussed in light of the instructor's knowledge of pedagogical purpose, expectation for high levels of accomplishment by students, belief in the ability to change students' beliefs, and willingness and ability to learn new things. (Contains 43 references.) (MDM)

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REVISITING NOVICEDOM: LEARNING TO TEACH EDUCATIONAL PSYCHOLOGY

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Presentation at the American Educational Research Association
Chicago, March 28, 1997
Session # 50.18 Teaching of Educational Psychology

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INTRODUCTION

Educational Psychology at Oregon State University, as in many other tertiary institutions, is a capstone class required for admission to all masters in education programs. The course usually enrolls about 70 to 100 students, largely juniors and seniors and is typical of traditional educational psychology courses in content. Based on the School's NCATE matrix of student competencies cross-referenced with education classes, the course required a vast coverage of a variety of theories of learning; cognitive, personal, and social development; educational assessment; motivation; classroom management; effective instruction; diverse populations; and students with special needs. In most universities, this massive amount of material is taught over a 15 or 16 week semester or over two quarters, but in this setting, it is covered in a single ten-week term.

As an experienced teacher educator with a background in educational psychology (but not an educational psychologist), I (Nora) was asked to teach this class Spring Term, 1996. It consisted of two sections, one of 37 students, the other of 45. My previous teaching had largely been smaller graduate classes in my specialty area: gifted, talented, and creative children and in masters level courses for preservice teachers. I had brought to the course 19 years of teaching and administering programs in a large urban school district and 11 years of university teaching. I had also been given the Ersted Award for Distinguished Teaching by University of Oregon. This acknowledgment and the many years as an educator allowed me to have a degree of confidence in taking on this course, even though I recognized the limitations of my content expertise.

In the short time allotted to prepare for this class, I spoke with the previous instructor and I reviewed several textbooks on educational psychology. I selected McCown, Driscoll, and Roop's (1996) *Educational psychology: A learning-centered approach to classroom practice*, to be coherent with the constructivist and critical/social conceptual framework espoused by our School of Education. As an instructor new to this course, I knew that the textbook would be important for providing much of the content. But to be honest, I had not read the current literature on teaching educational psychology. Therefore, any decisions about instruction were shaped by my own understanding of pedagogy and my own sense of purpose derived from previous experience.

I (Anne) am a lecturer at Queensland University of Technology and had taken a sabbatical to study student perceptions of excellent university teachers. In Oregon, I was a guest in Nora's home. During Winter term, I spent two months studying Ersted Award winners from University of Oregon,where I had completed my doctorate in 1983. I visited the classes of six professors,

interviewing their students, and holding synergetic focus groups (Russell, 1994). I first met Nora when we both attended a conference in Queensland in 1992 and hosted her at my home when she presented at a conference in Brisbane in 1994. We regularly exchanged e-mail from our first meeting. This project grew out of our continued correspondence.

Purpose of Study

The purpose of this study was to analyze the process of learning to teach this Educational Psychology class. When a professor brings years of teaching experience to a course new to her, what is the learning process like for her? Two questions guided the research:

1. What did I (Nora) learn about teaching Educational Psychology through reflective journalizing with a colleague and through the eyes of my students?

2. What is the role of experience/expertise in facilitating or inhibiting this learning process?

PERSPECTIVES/THEORETICAL FRAMEWORKS

Four areas of literature are relevant to this study: 1). the teaching of educational psychology; 2) expert-novice distinctions in teaching; 3) expert university teaching; and 4) the concepts of *asynchrony*, *decalage*, and *dysplasia*, terms related to lags or gaps in development between systems or between areas of understanding, relevant to the issue of partial expertise.

Teaching of Educational Psychology

A commitment to examine the teaching of educational psychology by Division 15 of the American Psychological Association has led to a reconceptualization of the goal of educational psychology courses. The field has moved away from the traditional foundational approach to the "development of contemporary psychological perspectives by prospective teachers" (Anderson, et. al., 1995, p. 153), through analysis of the complexities of teaching, understanding of the social and contextual nature of knowledge construction, and attention to prospective teachers' knowledge and beliefs. To do so requires attention to learning how to teach prospective teachers to use new perspectives. In a follow up on this article, Blumenfield and Anderson (1996) suggested that research on the teaching of educational psychology is needed in order to assist novice professors or graduate students who often teach such courses. They called for a more extensive and richer knowledge base about the learning of teachers, using research done from varied perspectives. We take this to mean not only the learning of future classroom teachers but also teachers of educational psychology in universities, hence, this study.

For Schuell (1996), the focus of educational psychology should not be simply to provide factual or conceptual knowledge to prospective teachers, but rather, to learn about how to teach, how to make applications of the knowledge to which they are exposed, and to reflect on these practical aspects. For Renninger (1996), who described how the structure of her course evolved over 12 years of teaching it, the focus should be on student learning. For Murray (1996), earlier over-analytic approaches in teaching educational psychology need to be tempered with intuitive ones in helping teachers to think about and explain their teaching.

At issue is pedagogical content knowledge for teaching educational psychology-- "Teachers' special ways of knowing the subjects they teach...Knowledge about the learner's characteristics; what parts of the discipline or field are most useful to learners in various situations; and what methods of teaching the content are most likely to be effective, including what examples, cases, and analogies will represent the content effectively to various learners" (Anderson, et al., 1995, p. 154). Therefore, teachers of educational psychology need to know the content of the field and how it can be used by teachers, as well as strategies for teaching that help students think about teaching and learning. They need to have knowledge about the students as learners and knowledge about the context in which they teach. Our study focuses on learning to teach educational

psychology by an experienced university educator who lacked content and contextual expertise, but had considerable knowledge about students as learners and about pedagogical strategies. But what is the difference between being an expert and a novice teacher?

Expert-Novice Distinctions in Teaching

The literature describing differences on experts and novices in a variety of fields is quite extensive (see Glaser, 1987, 1990). One study by Ericson & Charness (1994), described expert performance (defined as consistently superior performance in a specific domain) as acquired rather than inherited and based on intensive, effortful training over very extended periods of active learning (ten years or more) in a specific domain. Expertise does not result automatically as a result of experience or practice; rather, the individual must restructure performance with the help of mediated instruction in order to acquire new methods and skills. Experts form immediate internal representations of problems that cue their knowledge systematically, while novices do not have efficient and orderly access to what they know.

According to Berliner (1994), there are relatively few studies of elementary and secondary teachers as experts. Murray (1995) likened teaching well to playing chess: Nearly everyone can play a little, some do it well by practicing and reading books, but the rules for playing chess brilliantly are not known. "The rules for teaching are known to nearly everyone; the rules for teaching well are known to teacher educators who teach them; the rules for teaching excellently...have not yet been formulated, even by excellent teachers" (Murray, 1995, p. 390). Findings from investigations of teacher expertise do indicate, however, that expert educators have both the knowledge and experience that allows them to deal with the complexities of teaching. They comprehend complicated and multifaceted classroom phenomena, determine what is important and unimportant information, find connections between and among pieces of information, and identify instructional and management problems. They have elaborate, more complex, more interconnected, and more accessible cognitive schemata (theoretical knowledge structures that contain information, facts, principles, and relationships among them). Novices do not have the extensive information nor the experience, so they have to interrupt their processes to build their schemata. For experts, the schemata facilitate planning. For novices, planning facilitates development of schemata. Novices must consider more information than experts while planning and while making interactive decisions. Expert teachers think differently than novices. Much of the difference is based on the experts' reflecting on what they do pedagogically and having the confidence to try different methods and approaches (Berliner, 1986, 1992; Carter, Cushing, Sabers, Stein, & Berliner,1988; Cushing, Sabers, & Berliner, 1995; Livingston & Borko, 1989; Swanson, O'Conner, & Cooney,1990). Not only is there a difference in teacher thinking but in expectations for students. Elbaz (1993) added that expert teachers value accomplishment and use rational techniques to get desired ends.

Shulman (1987) proposed seven areas in which expert teachers demonstrate professional knowledge:

1. Academic subjects
2. General teaching strategies that apply to all subjects
3. Curriculum materials and programs appropriate to subject and level
4. Subject-specific knowledge for teaching
5. Characteristics and cultural background of learners
6. Contexts: The settings in which learning occurs
7. Goals and purposes of teaching

Berliner (1994, p. 164), stated that "because teaching is ill-structured and takes place in a public setting that requires mastery of a complex social and political environment, it is inherently more difficult than many other professions." In his search for "wondrous performance" of teachers in public schools, he suggested the following propositions that summarize teacher expertise across the small number of mostly descriptive studies of expert educators:

1. "Experts excel mainly in their own domain and in particular contexts" (p. 167)

2. "Experts often develop automaticity for the repetitive operations that are needed to accomplish their goals." (p. 169)

3. "Experts are more sensitive to the task demands and social situation when solving problems" (p. 171).

4. "Experts are more opportunistic and flexible in their teaching than are novices." (p. 173).

5. "Experts represent problems in qualitatively different ways than do novices" (p. 174)

6. "Experts have fast and accurate pattern recognition capabilities. Novices cannot always make sense of what they experienced." (p. 177).

7. "Experts perceive meaningful patterns in the domain in which they are experienced" (p. 179).

8. "Experts may begin to solve problems slower, but they bring richer and more personal sources of information to bear on the problem that they are trying to solve." (p. 181).

The four propositions below Berliner (1994) considers still tentative:

9. Experts make substantially more inferences from and assumptions about the information presented to them than do novices." (182)

10. Experts are more evaluative than are novices." (182)

11. "Experts, compared to novices, attend more to the atypical or unique events than to the typical or ordinary events in the domain in which they have expertise." (p. 182)

12. "Experts appear to be more confident about their abilities to succeed at instructional tasks than are novices." (p. 182)

Berliner (1994) also suggested that teachers go through levels to become experts over extensive time periods, adapting Dreyfus and Dreyfus' (1986) model of developmental stages from novice to expert to the field of teaching:

- *Stage 1: novice level-(deliberate)* (Student and first year teachers). Behavior is usually rational, pretty inflexible, and conforming to rules and procedures taught. Is the stage for learning objective facts and features of situation and for gaining experience. Marks student and first year teachers.

- *Stage 2: advanced beginner. (insightful)* (2-3 year teachers) Experience can become melded with theoretical knowledge. Episodic and case knowledge can complement propositional knowledge. Advanced beginners may fail to take responsibility for actions. Still following rules, describing events and labeling, recognizing and classifying contexts. Not yet determining what is happening. Personal responsibility develops with sense of personal agency, choosing what to do. Mentors are particularly important here.

- *Stage 3-competent level (rational).* (most, not all, 3-4 year teachers). Can make conscious choices about what they are going to do, set priorities, and decide on plans. Have realistic goals, choose sensible means for reaching ends. Can determine what is and what is not important--what they can ignore and to what they must attend. Make fewer timing and targeting errors. Make curricular and instructional decisions, like when to digress and when to

move on. Are more personally in control of event around them, follow own plans, respond to information they choose, feel more responsible for what happens. Not detached but not yet fluid or flexible.

- *Stage 4: proficient level (intuitive)*: (year 5 for some). Intuition or know-how becomes prominent. A wealth of experience brings holistic ways of viewing situations, recognizing similarities, like a bogged down lesson in one area related to another subject. Pattern reaction allows prediction of events more precisely. Still analytic and deliberative in deciding what to do.

- *Stage 5: expert level (arational)*. (After years 6 or 7 for a few). Experts grasp situation non analytically and non deliberately to find appropriate response in effortless manner. Have a fluid approach, using pattern recognition skills. Are aware of and responsive to student needs. Concerned with student responsibility. Make valid inferences on what goes on in classrooms, using principled reasoning, rich problem representation, and routines to accomplish work of class. Are work-oriented, flexible, with automatization of routines. Qualitative different performance, at one with the class and lesson. Less conscious attendance to events in class, more going with the flow, doing things that work.

A somewhat different view of educator expertise is taken by Ennis (1994),O'Sullivan and Doutis (1994), Pajares (1992), Porter and Brophy (1988), and Welker (1993), who called for teacher expertise as involving social, political, and moral dimensions, not only the more studied cognitive aspects. They suggested that understanding the connections in belief systems are the central to changing student ideas and attitudes about teaching and learning. O'Sullivan and Doutis suggested that the term *virtuoso* connotes a more qualitative, than technical focus to describe "professionals who are experts in the content, knowledgeable of their learners and context, sensitive and socially responsible educators" (O'Sullivan and Doutis, 1994, p. 179). Ennis defined curricular expertise as a blend of "knowledge and beliefs to form a commitment to student learning strong enough to overcome the formidable constraints in the teaching setting" (Ennis, 1994, p. 175). She discussed the problem of knowledge *disavowal*, in which the individual continues to hold incorrect beliefs even after confronting knowledge or research that is contrary. She noted that this is a political strategy, used to preserve a sense of self-worth, wherein the teacher places responsibility outside his or her control. Porter and Brophy found that when the teaching/learning process breaks down, teachers need to believe that both students and teacher should assess the situation to correct it. Pajares found the use of metaphor, narrative, and biography beneficial to support change in beliefs.

Particularly relevant to our study, the only research we found that addressed what happens when an expert teacher is put in a novice role was by Berliner, Stein, Sabers, Clarridge, Cushing, and Pinnegar (1988). As one aspect of their study, expert math and science teachers, novices (a group of scientists and engineers with no teacher training or experience), and advanced beginners (excellent first year math and science teachers) were given 30 minutes to prepare a lesson on Pascal's Triangle and then to teach it. This was a difficult probability lesson designed to capture distinctions between experts and novices. The experts, who were used to being very successful teachers, as a group became angry and distressed. One cried in the middle of the study, one quit, and all were unhappy. They were concerned about performing successfully in a laboratory context rather than their own classroom. They also did not feel that the planning time of one half hour was sufficient. While novices and advanced beginners were comfortable with this time period for preparation, expert teachers requested more time, some requesting three hours and one wanting three weeks to adequately prepare the content and plan teaching activities. Most claimed that they over prepared for teaching something new. "All who teach know that sometimes we enter classrooms relatively unprepared and we must then improvise. These experts, apparently, do not engage in such improvisations often" (Berliner, et al, 1988, p. 75). In addition, they were distressed about not knowing the students--their abilities, their personalities and needs, and their

shared history in which students knew what was expected of them. The authors speculated that "The combination of not knowing the material well and not having the students well-trained made these experts feel that they were losing control" (Berliner, et al, p. 88). They hypothesized that if the experts had known either the students or the content, they would have felt more confident, but removing both undermined confidence and the ability to perform. Although the authors focused on the importance of context and content in this study, clearly the expert teachers' social, emotional, and belief systems were important, as well as their lack knowledge of content and students.

Expert University Teaching

Few studies have been found on expert-novice distinctions in university teaching (Fernandez-Balboa & Stiehl, 1995). Our search was no exception, although we found a large number of related studies focused on teacher effectiveness, often focused on assessment for tenure or promotion (i.e., Cashin, 1989; Gibbs, 1995; Shirk & Miller, 1994). Benz and Blatt (1995), for example, found that instructor effectiveness was most strongly related to preparedness, clarity of presentation, and being interesting. Lowman (1995) and Stewart and Barraclough (1992), examined the effectiveness of college teaching based on a two-dimensional model of intellectual excitement or enthusiasm, and interpersonal rapport, or immediacy, which were found to be strongly related. In our study, Nora's effectiveness was compromised due to lack of content preparedness and concomitant difficulty with clarity, although immediacy behaviors were strong. But virtually every study described on depth of knowledge as a sine qua non for university professors.

Among the limited number of studies on teacher expertise, (1992) found that expert college teachers are deeply knowledgeable about their subject; well-prepared, organized, and clear. They care about their students, creating a positive environment for learning and relating difficult concepts to students' daily lives. However, most useful to this paper was a phenomenological study of pedagogical content knowledge of ten outstanding professors by Fernandez-Balboa and Stiehl (1995). Five key dimensions of pedagogical expertise were found:

- *Knowledge about subject matter*: This aspect is expected of professors who have mastered a subject. There is recognition that this knowledge is not static, but constantly evolving.

- *Knowledge about students*: Knowing students as both people and learners, finding out about their backgrounds and interests; holding office meetings; observing and "reading" student expressions.

- *Knowledge about instructional strategies*: Creating a fun and exciting, comfortable and safe, active, reflective and thought-provoking learning environment; using various delivery techniques; connecting students with subject and real world, often through use of metaphors and analogies; teaching terminology first; using questioning strategies; modeling; role-playing; implementing alternate strategies to motivate or instruct; assigning authentic tasks that involve all students in learning groups of about 4; and assigning outside tasks.

- *Knowledge about teaching context*: Understanding and working around barriers such as class size, time limits, scarce resources, student attitudes, or tenure and promotion standards

- *Knowledge about one's teaching purposes*: Persuading students of subject matter importance; enhance student lives to help them solve problems, use critical thinking, participate ethically, enjoy life, be independent and life-long learners.

These authors point out the importance of beliefs in interpreting and translating knowledge. For the extraordinary professors studied, "what is paramount is that the subject matter serves as a means for students to construct new knowledge and live enhanced lives" (Fernandez-Balboa & Stiehl, 1995, p. 304), not merely the transmission of a body of content into the heads of the

learners. They also discuss how these five components are integrated in excellent teaching, a process that they note is not linear, but more simultaneous consideration of options in helping students to be successful.

One of the dilemmas in any of the models detailed in the last two sections is that expertise is considered a unified phenomena (albeit recognized by some as fragile and domain and context-dependent). But we think this notion of expert does not take into account the normal state of things: That expertise requires multiple interacting systems working together in concert. If one or more of the systems or conditions are not coherent, expert performance is compromised. We may be experts at teaching a particular subject, or working with a particular level of students, but not so in a subject or level new to us. Or perhaps we are partially experts here. We suggest that concepts from general and dynamic systems theory and from Piaget's work could be useful in this study.

Asynchrony, Decalage, and Dysplasia

Ennis (1994) suggested that dynamical systems theory can be used to focus on the interrelatedness of knowledge and beliefs. She described *attractors* as aspects that influence decisions related to the whole system, but which are limited by environmental constraints. In the case of this study, the assumptions described in the next section could be called attractors. Cohen (1985; Cohen & Frydenberg, 1996) proposed that the individual can be thought of as having several interacting internal systems--universal and non-universal systems of cognition, affect, purpose, intuition, perception, and the physical, all subsystems of the psyche. An indivdual also functions within several external environmental sub systems--the physical, social, and cultural. To consider a system as an organized whole is to consider several subsystems at varied levels of development (Land & Kenneally, 1977). Synchrony among all subsystems is rarely if ever possible. One system may trigger imbalance in another. When one system (or subsystem) is more advanced than another, asynchrony occurs (Silverman, 1993). A related concept is *decalage*, Piaget's term to explain that development proceeds at different rates on different tasks, i.e., the conservations (Piaget, 1941 as cited by Pinard and Laurendeau, 1969). The resultant conflicts or inconsistencies to current schema induce disequilibrium. Sometimes the conflicts stress the individual or even cause the systems to shut down, causing *dysplasias* (Gowan, 1972; Khatena, 1992). This occurs when one subsystem of the psyche (e.g., purpose), escalates while another system (e.g., affect) becomes arrested at a given point. But sometimes more advanced development in one system pulls another system to higher levels. This state can lead to great possibilities for growth, particularly when the individual has a glimpse of what is possible. When one has expertise in some aspects of teaching, but is a novice in others, the concepts described above could well be applied.

METHOD

This study did not begin as a research project, but simply e-mail correspondence between friends. The informal beginning became more purposeful as reflections were responded to and then was turned into a research project by the professor and her reflective colleague. Action research/teacher research were the methods of inquiry (Stringer, 1996; Cochran-Smith & Lyttle, 1993). I wrote letters via the internet to my Australian colleague Anne and she responded in a variety of ways (Russell & Cohen, 1997). Our combined letters covered the preparation of the Educational Psychology course through it's conclusion and follow ups (approximately 12 weeks) with 108 pages of text generated between us on this topic. I was a participant observer, my friend, a reflective colleague. Her perspective on my e-mail reflections is central to the study. Triangulation also involved student journals, a student questionnaire at the end of the course, student reflections collected during some classes, as well as artifacts from the course, such as the syllabus, text book, session lesson plans, and handouts. Before beginning the analysis, some more information is needed about how the course was structured.

Assumptions

I do not believe in teaching a course that would simply involve spitting back of textbook information, particularly in a subject that was supposed to focus on developing beliefs about how children learn and how teachers should teach. Yet I was faced with several dilemmas: There was far too much material to cover (imagine trying to teach theories of development, the concept of mediated learning, language development, and information processing in a single 90 minute period!), I did not know the characteristics of the students typical in this course, and I although I had familiarity with much of the material to be covered, I did not have content expertise. As a constructivist, I went into the course with several beliefs built on my pedagogical knowledge as a teacher educator. These assumptions (my platform) about students, based on years of experience, as well as knowledge of practice, theory, and research, helped shape the course and became my purpose:

- The focus of the course should be on learning--learning about how I learn, learning about how other peers in the class learn, learning about how children learn, learning how to teach. Thus, the major course project (50% of grade) was a self-study on learning the course content.

- Each person learns somewhat differently, based on his or her unique experiences and previously built schemata, pretuning and intellectual abilities, interests, purposes, and current context. Therefore, reducing the course to lectures and objective tests would not honor individual concerns. I needed to design a course that would capitalize on each student's strengths and help them to link the material to their past knowledge, interests, and current involvements.

- Learning is an active process involving the construction of metaphor between the new and the known. By requiring the learner to represent the material in a transformed mode (mode switching), such metaphors are created. These can be in any of the domains Gardner (1983) defines as the Multiple Intelligences. By anchoring these mode switches in words, reflecting on their metacognitive processes, and sharing the metaphors and logs, students become aware of their own and each others' learning.

- The act of teaching is a profound act of learning. Each team of students was responsible to teach an active learning lesson on the topic in the syllabus, worth 25 points. To ensure their success, I would meet with each team twice before the presentation. The first meeting was to discuss the content and consider possible teaching strategies, the second was to go over a formal lesson plan and deal with any further concerns.

- Attendance and participation (10 points) is essential if students are to be successful, particularly if others in their teams depend on them.

- Students should spend time in public schools and relate and apply their learnings in authentic settings. Because a practicum was not tied to the course, three mini projects (5 points each) based on helping in classrooms, work with individual children, service to the community, or researching an educational psychology question would make learning more real.

- Assessment should be authentic, with rubrics or scoring guides specified well in advance as the basis for grade expectations. Students self-assessment based on these rubrics should count the same as the instructor's assessment. In this way, power is shared.

- Modeling is essential to student learning. I would model mode switching, teaching for active learning in the beginning of the course, and being a learner myself.

Student Assignments

The major assignment involving 50% of the grade focused on the students' self-study in journal form of how they learned the various topics. This involved creation of a *mode switch* (Cohen, 1994) (a metaphoric representation of the material in a form different from the way it was presented, i.e., a transformation from words to figures, symbols, or music) or a spatial strategy for each chapter, accompanied by a metacognitive log. For the past ten years, I had evolved this learning strategy from my studies of how creative people think. I had found this mode switching technique to be effective in helping students understand and integrate complex information into their schema. The strategy was to have students wrestle sufficiently with the material that they could represent it in a different, but unified form and to reflect deeply on their thinking.

This metacognitive log detailed the key concepts represented in the mode switch, discussed how students got the ideas for it, and related the key concepts to both their own experiences and applications in the classrooms. Students, grouped in teams of three or four, shared these mode switches and metacognitive logs with teammates in order to get multiple perspectives on the same topic and to discover the strategies others used to learn the material. Three times during the term, teams "docked" with other teams to gain additional perspectives.

RESULTS

The following themes were analyzed, looking at how order and predictability was imposed on the complex problems in teaching this class: Chronology/Time, Feelings, Quest for Expertise, Power and Safety, Teacher Learning/Student Learning, and Changes for Next Time.

Chronology/Time

E-mail over time: Some 63 e-mail letters varying in length from less than a page to five pages were sent between Anne and Nora during a twelve week period--the ten weeks during the class and the weeks immediately prior to and following it. Nora's computer bombed during class weeks four and five, so the only correspondence was from Anne querying why she was not getting messages. The number of messages peaked during weeks three and seven, with eight and eleven respectively. Frequency of correspondence related to both the intensity of the teaching experience and to contextual considerations, such as Nora's system bomb.

Major events/reactions chronology: The major events and Nora's response to them in the course were as follows:

Week 1	* Feeling overwhelmed by contextual concerns: the time, place, group sizes, heat, amount of material to cover. * Getting classes started with insufficient syllabi and materials--lack of accurate class role * Recognizing the importance of initial conditions in making a class work--use of food, respect, modeling, encouraging students to try mode switching with automatic A for first two attempts. * Teaching lesson and modeling active learning on Chapter 1- expert-novice, reflection, use of metaphor * Frustration of teaching lesson and modeling active learning on Chapter 2- Barely getting through Piaget, Vygotsky. Not enough time for depth or rest or material. * Putting students into teams based on class search: multiple intelligences, home location, interests, program area * First meetings with teams at end of week. Scheduling two meetings per team over the term.
Week 2	* Stabalizing class, getting accurate role, sufficient books, course materials. * Negotiating/revisiting assignments * Making overheads from first mode switches. First team discussion of assignments. * Beginning of student presentations at 4th session (end, week 2) and scheduling throughout term. * Getting to know students: Taking photos of each team, making class charts, getting names below photos * Feeling like a novice, feeling frustrated * My "thorn"--student told me course was hopeless and metaphors were fuzzy thinking, not useful

Week 3	* Becoming aware of backgrounds of students-- the wide range of programs, backgrounds, concerns * Focusing on building a community. Dealing with social and power issues with class (shared grading, not having teams grade each other but help each other). * Feeling really down, feeling a lack of control of the agenda * Lots of support and encouragement from Anne * Ken's remark about studying self in learning to teach the class. Recognizing the "letters to Anne" function. * Wishing I could look at this as a learning experience but fearing low student evaluations * Requesting time with Curriculum Committee to discuss impossibility of course coverage
Week 4	* Completing scoring guides, revising with students. * Anne asking if my stress was stressing the students * Anne's suggestion that students e-mail about the course and discussion about power issues
Week 5	* Clearing the air with students in verbatim reading of lesson plan. * Asking students how we can make the course less stressful * Offering the test option (80% or better and exempted; no risk, only count if successful) and selecting items for multiple choice test
Week 6	* The worst night--feeling terrible about letting hair down with evening class * Sitting with problem groups at docking * Meeting with Curriculum Committee and getting agreement on course content reduction * Use of board for housekeeping; getting routines established * Beginning to focus more on student learning, challenging them to be brave, try new ways of thinking * Learning that some students beginning to enjoy mode switch process * Expressing excitement over student work; lots of encouragement on journals * Turning the corner with the evening class * Using laughter and caring
Week 7	* Giving optional exam to exempt students from course; taking test myself; only "thorn" passed * Giving students lots of encouragement on both journals and lessons * Taking temperature: 33% on top, 55% in middle. Coming together for most. * Excitement about student journals, idea of publishing about study * Recognition of time needed to trust, reflect. * Recognizing need to allow students to see professor model learning from mistakes * Becoming curious about student strategies, relationship to multiple intelligences, nature of groups, catalysts * Releasing worry about student evaluations and replacing it with studying process of learning to teach * Viewing experience of teaching ed psych as opportunity instead of threat * Recognizing that I cajoled students to look at own process but denied it for myself
Week 8	* Recognizing that studying the process of learning to teach makes a big difference * Feeling happier and more comfortable with class. Sharing my appreciation of student learning * Discussions about democratic classrooms, issue of student responsibility * Reflections about coverage, time, reflections * Wanting students to focus on big picture of selves as learners * Deciding to cut two student assignments based on amazing output and student growth. Noticing student stress, baggy eyes. * Major shift in focus on student learning instead of my stress
Week 9	* Issues of best ways to provide feedback to teams on student-led lessons * Astounded by profundity of student journals/mode switches * Issue of leniency and use of scoring guides * Discussion about student perceptions of constructive criticisms as judgments * Students making connections to other classes, aspects of lives. * Discussion of becoming a community of learners-professor with students
Week 10	* "Thorn" expecting professor to be deeply knowledgeable. * Discussion of cohesive, relevant nature of asignments in ensemble * Discussion of bell curve and its negative effects on cooperative learning groups. * Last class: Celebration supper and sharing of completed journals; three things I learned * Stress of marking 82 complex journals * Relationship of grades to teacher excitement * Recognizing again the value of journaling with Anne.

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Time Constraints: Early on, Nora recognized that the course design could not allow success for either teacher or students. It was far too much to cover in far too little time. One action was to meet with the Curriculum Committee to either get the course reduced in required subject coverage or to extend it to two terms or more credit hours. A second was to ask students to think about time pressure as a factor in their learning. Nora spent a huge amount of time on hour-long meetings with teams (11 teams per class X two meetings per group X two classes = 44 team meetings!), providing constructive comments on student papers for 82 students, and marking final projects. She recognized the need to address this issue the next time the class was taught. Time was also recognized as a factor in learning to trust enough to take risks (both for the instructor and for students), getting to know students, allowing time for team members to work with each other and dock with other teams. Time was the biggest problem for students, who felt stressed by having to go so fast and cover so much while juggling busy lives and other classes.

Feelings

During weeks one to six of the class, Nora repeatedly expressed her feelings of stress with such words as panicked, frustrated, frazzled, terrible, feeling like a novice, struggling, exhausted. For example, during week three: *"I keep battling on, but it's not joyful."* The major concern was expressed at the end of week 3: *"I'm worried about their evaluations of the course... I fear the student assessments will be low and this will be held against me instead of allowing me to learn from my experiences."* In that letter, she declared, *"I've fantasized abaout paying someoone to teach it, so I wouldn't have this stress."* Metaphors expressed during thist time period were, *"I have to dance to everyone else's tune in this class!"* (week 3); *"Yipes, what snake pit have I gotten into?"* (week 3); and *"I feel terrible about letting down my hair and appearing weak with them." I don't thik I can face that class again."* (week 6). Clearly, Nora was not feeling in control and was struggling to teach the class. But it was this expression of the real concern, the fear of low student evaluations, that began to lead to breakthroughs in Nora's ability to get on top of the course.

Anne was encouraging throughout this time. She kept reiterating that Nora was an excellent teacher, had a great reputation, and would accomplish much. For example, *"You are being hard on yourself...Modeling and taking risks will free your students. This is the reason you are a fine teacher"* (week 2). She expressed pleasure in learning with Nora: *"I am excited to be involved in your learning curve"* (week 3). She reminded Nora that it had been five terms since she had taught the same thing twice and encouraged her to *"Enjoy the challenge. I am delighted you are not just lecturing and giving exams. Your focus on authentic and active learning is the strength and excitement these students will take to their teaching"* (week 4). She recognized areas of strength: *"Know that your caring about the students is a key facet and comes across anyway in your teaching. You can't help yourself in this!!"* (week 5). Her support was crucial in the transformation that ensued, especially her acknowleging Nora's feelings and frustrations, particularly the fear of low student evaluations.

There was a major shift in attitude in the second half of week six. During that week, Nora described her feelings when the Curriculum Committee agreed to reduce the course to six fewer topics. *"I feel almost elated. I can handle this! Whoopie, I won't have to fly past such important ideas. We can take a more reasonable pace and both students and I can enjoy the learning."* She noted that the evening class seemed to be turning the corner and described experiences with individual students as *"moments when it's really worthwhile."* Nora began to see the course differently, particularly when she began to focus on her own learning: *"It is an opportunity and I can look at it this way instead of as a struggle"* (week 7); *"I'm feeling happier and more comfortable with the class, Anne. I think studying the process is making a big difference"* (week 8). The language changed, with a much more positive tone through the last four weeks of class. Lots of words like: great idea, excited, wonderful, intrigued, marvellous, peaceful, calm, thrilled were peppered throughout the last half of the e-mails. As Nora began to get considerable growth in student journals, she proclaimed, *"I felt like jumping up and down and shouting, 'You've got it,*

you've got it, hooray!" (week 7); and *"Some of their mode switches astound me, they are so profound"* (week 9).

Metaphors changed in the last half of the class. Nora started to see *"learning to teach the course as a journey"* (week 6). *She noted that students were "beginning to understand this queer duck's approach to teaching and learning"* (week 7); She discussed the butterfly effect: *"If I can only get the initial conditions right. I would like my students to feel safe, as if they were bathing in a wonderful warm spring but had the challenge of swimming under a waterful to see a rainbow in the water. But if they got their head stuck under the water once and feel unsafe, it's hard"* (week 7). Her classes were no longer *"pulling teeth, but I feel we're sailing a little smoother now"* (week 7). She described each class as *"a unique blend of individuals and sometimes one blend is more mellow than another--a good coffee metaphor!"* (week 9). In the final week, she described what happened when she read student journals: *"I get an actual visceral reaction--I can't put down the papaer, my skin tingles, sometimes I salivate. It's amazing to me how excited I get about their ideas! I find myslef commenting profusely with lots of exclamation marks. Feel like I'm dancing around inside my head, full of joy....Maybe I need a scoring guide for my excitement. Sort of an excitement meter, like hitting a hammer on a post to see how far the meter rises at the fair."* Her final comment about the class, *"I think I went through post-partem depression after the term was over."* Obviously, there had been a change to feeling more able to handle the class.

Anne's responses during this time continued the encouragement. *"Isn't it healthy to be learning with the students!"* (week 6). She noted the importance of the *"lifetime experience"* Nora was giving students, *"the thinking of a professor who teaches them"* (week 7). She complimented Nora on her courage related to the verbatim lesson plan and noted that our journals were *"fun and thought provoking"* (week 8). Anne stated that she was *"thrilled at how much you are getting from students as they open up in thier journals"* (week 8), complementing Nora on *"the enthusiasm you model comes through and inspires." Anne described the joy she experienced in sharing our journals on the class:"I am loving this interaction!"* (week 7); *"It is doing me good and so valuable to think I can be of some use to you. It makes me think as well..."* (week 8). The relationship was obviously beneficial to growth in both Nora and Anne.

Quest for Expertise

Throughout the course, Nora frequently talked about feeling like a novice or lacking expertise. During week 2, she stated, *"I used to feel like a good teacher, but now I feel too much like a novice all the time."* That week, she presented on a panel on gifted education, contrasting this experience to her present teaching one: *"Felt wonderful to know a bit about what I was sharing. Was energizing to be with old colleagues. We found ourselves leapfrogging from each other--good fun."* During week 3, considerable discussion surfaced, and Nora related her situation to that of her students: *"I think we revisit novicedom when we teach something new. I have to spend so much energy on the content, that I simply am not as able to focus attention on students, learning, strategies, and what makes a course sing. But it is the case with new teachers who must try to grasp one piece at a time. Once the content is automatic, you can focus on other aspects...I feel frantically behind and am meeting with groups on chapters I haven't even skimmed yet!"*

Anne countered with, *"It's disconcerting when students have read what you haven't!"*

Two days later, Nora stated, *"Teaching a new course really puts one in the novice role, particularly if the material is not all comfortable to you Not that I don't have a good working knowledge of it, but when I teach, I like to have expertise. Some pieces are there, but there is much that I keep just ahead of the students on. And I don't like to pretend. So each time you do it, there is a series of successive approximations, as you get it closer to what you want. Right now, I feel like I am trying to scullpt very raw wood. The shape is only beginning to emerge and there are so many rough edges."* Later that week, Nora noted, *"It would be nice to feel like I knew where the issues and problems were. I know when I teach in my field, I do have a sense of what is important, what*

is not, and how to help students grasp those ideas. Here, I feel like I am struggling for my own frame of reference and need to do this before I can really help the students do it." Anne's wise question in response was whether Nora's stress was due to feeling that the students knew more than she did, reminding Nora that students are delighted when their professor learns with or from them. In week 6, Nora shared a lesson plan verbatim with her students. In it, she acknowledged frustation with the course, reminding students of the discussion on experts and novices in the first chapter. *"Experts have experience. Each time you teach a new subject (and as a teacher, you will have to do this!), you go back to an earlier role. It's sort of like Erikson's stages, when confronted with a conflict. My frustration is the huge amount of time, a sense of some folks' anxiety, feeling bad. We all want to do well. How can we make it work better for all of us?"* For the afternoon class, at least, this discussion seemed to have broken through the student stresses as they experessed their concerns.

In response, Anne noted *"It seems like we are like the students--we want to be at the end of the class right at the beginning of the class. This is a problem with our educational system that instills in students the most important thing is the final results. They never learned that learning is for self, not some other person."*

Nora stepped out of the specifics of the class to note, *"I think there has to be some chance to muddle around and find out how to teach these courses when everything is new. But I am beginning to get more on top of the content and structure and certaily have a better sense of the students"* (week 7). This relates to the next theme of power and safety. The concern about how to facilitate for students resurfaced in week 9: *"For some chapters, I don't have the depth of knowledge to help weed out what is important."*

Anne took the discussion to a bigger frame, noting that as professors *"we have to know so many different subjects. This is part of the information explosion--where no one can be the ultimate expert on anything."* She added that if they are, they *"have missed out on the world and the interconnections."* She reiterated what she learned in her research where students described how their excellent professors learn with and from them.

Although by the last week, Nora was feeling less like a novice and more like a learner, the issue of expertise reasserted itself through Nora's "thorn," a student who played this role throughout the course. *"He told me he expected the instructor to be deeply knowledgeable and share his knowledge with students, not have student presentations from the book"*. Nora respectfully listened, reminded him she was learning to teach the class and was open to his suggestions, adding, *"I hope when you begin to teach, you will give both your mentor teacher and yourself grace. It's not easy to be a good teacher."*

Power, Safety, and Courage

Throughout the course, Nora was concerned with giving students voice, sharing power, and having a democratic classroom. She recognized and encouraged student ideas, puzzled about power relationships if students were to dialogue about the course with her and Anne on e-mail, and discussed modeling the courage to admit failures, asking the class, *"How many feel shaky and worried about the course?* (I raised my hand with the students). *What if we said the worst grade you could get was a B if you try the self-study and obviously pur forth effort? Can you then look at it as a learning process and try to enjoy the process and worry less about the product? This is not a competition--we learn from each other. Don't worry about another person drawing better or being more creative. When I share [a student's] mode switches or strategies, thepurpose is to help you understand what the process is about. I see a lot of movement for several of you. Be brave and try it"* (week 6). She created "safe" grading policies. In order to encourage the risk-taking and experimentation required for the mode switching, she gave automatic A's for the first two journal entries, cajoling students to *"just try it, you can't fail!"* She told them about the B grade policy to

avoid stress over grades and to increase cooperation among teammates. She also instituted scoring guides in which student self-assessment would count as 50% of the grade.

But Anne prompted Nora that the student risk was considerable. *"Of course they do not trust you. No other teacher has trained them that teachers can be trusted. They come from teachers who want information regurgitated"* (week 7). A discussion about the time it takes for trust to develop followed. Anne noted that some students may think any constructive comments in their journals are criticisms and are unable to face the "judgments," even when Nora protested how positive she tried to be in this regard.

In concerns to ensure that students shared power, Anne reminded Nora that this type of approach required student responsibility. In response to Nora's laments about late student work, Anne declared, *"This is their responsiblity and you don't need to worry about killing yourself to mark late work when they know the deadline. You are giving them power and a safe environment in which to discover ramifications. You are a facilitator, not a watchdog."* During the last week, a discussion ensued about cross-cultural grading policies. Nora stated, *"Thank goodness there is no bell curve for grading here. I could not teach successfully if there were, because I would feel that I was not doing my job--that is to help people to find success."* She added, *"When a curve is applied, they [students] are pitted against each other instead of against criteria. When norm referencing instead of criterion referencing is practiced, cooperation is almost impossible."*

What is interesting is that Nora did not initially give herself the same grace and safety that she gave to students. Anne continually tried to help her to take risks and to have courage. She recognized small accomplishments: *"You have taken a risk in both classes. Modeling taking a risk will stay with the students"* (week 2). But in the first several weeks, Nora was too preoccupied with worry about student evaluations that could affect her tenure to allow herself to look at the process of teaching the course as a learning experience. Only in week seven, did Nora recognize that she had not allowed herself the same opportunities to learn as her students. *"I have been cajoling students to focus on the process of learning. I need to look at it for myself this way."* In part, this new-found understanding came with the focus on studying and writing about the process.

Anne noted that the fear of criticism related to this worry, coupled with being pulled too far, too fast for both Nora and the students: *"If someone tries to stretch me in too many different directions, I feel failure in all those directions. I cannot please that person."*

Teacher Learning, Student Learning

Until Nora became more of a learner, following week 3, her e-mail letters reflected little focus on student learning. She was too stressed trying to get a handle on the parameters and content of the course to think about mediating learning for them. A surprize to Nora was how parallel was her own learning with that of her students. Their great growth spurt and emerging feelings of success also occurred about the same time (end, week 6). Certainly time, familiarity with the instructor, and beginning to trust her helped. This trust aspect was facilitated by a student in the afternoon class who had Nora the previous term for the curriculum course (also new to Nora). This student told the class that she had felt terribly frustrated the previous term because she had only been used to university teachers equating learning with test results. She noted that it took her time to begin to realize that Nora asked students to think about learning as a process, not only as a product. By week 7, most students felt they were either on top or the course was coming together for them. Like the "dance" between an infant and its mother, the dance between an instructor and her students is a recursive looping, with reading of feedback from each other. But although Nora kept encouraging them to learn from their failures and from each other, it took until week 7 before she could allow herself to do the same.

As students began to really focus on their awareness of their own learning, Nora become increasingly excited. Her delight was obvious when several reported they related content and

learning strategies *"they are learning in this class to other clases they are taking and are discribing that it has made learning both easier. What a marvellous discovery! When they relate matieral on motivation to a forestry class, for example, they understand oth the key elements needed for the trees and for kids"* (week 8).

She began to puzzle about their thought processes and other issues, raising many questions: *"I am intrigued by the false starts, metaphors that are too incomplete to allow relating all the material, the 'kapow' experience of some." "Am puzzled about differences in 1 and 4 PM classes." "I worry about the least common denominator in teams." How do mode switches relate to the inter/intra personal intelligences of Howard Gardner?" "I wonder about what students are learning from each other, how peer support or pressure facilitate learning." "I am intrigued by how differently a team can interpret and present the same chapter. I am trying to help them understand how differently we assimilate to our different experiences, strengths, and interests." "Why does one student catalyze a team?" "I'm interested in the change from teacher-directed to student directed learning." "I'm wondering about the role of mentoring--is it always an expert, or can students do this for each other?"* Anne and Nora puzzled over the role of humor, how to best help students with different Meyers-Briggs learning styles, cross-cultural differences in expectations for grading and for professors, the difficulties of changing beliefs, the importance of metacognition in school classrooms. Clearly, the shift had moved away from stress about not knowing to focus on her own learning and that of her students. Enough questions evolved to sustain a research agenda for years!

Changes for Next Time

Over the course, but especially in the last half, Nora began to note what she now knew and what would do differently. The list, chronologically:

- "Next time, I will know more about the programs of study and what students bring."
- Maybe offer an exemption exam for students who have had several child development courses.
- I'll take students to the lab early to use the web site and see mode switches.
- I'll give the grading policy immediately to relieve anxiety.
- Several ideas about scoring guides and mode switches. Will provide scoring guides and more time to review the criteria. Will make room for comments on the scoring guide. Will copy mediocre mode switches and excellent ones and have students use scoring guide in the beginning of the term to learn what is expected.
- Will use the sandwich approach for constructive criticism, or ask students the best way for me to give them feedback.
- Reflection time: Would love to think about other ways to get students to consider what they learned.
- Next time, I'll include penalties for late work on the syllabus.
- Next time will be much easier.
- I have revised the syllabus to 9 from 14 chapters. It's far more possible!

DISCUSSION

Returning to the two questions: What did I (Nora) learn about teaching Educational Psychology through reflective journalizing with a colleague and through the eyes of my students? and What is the role of experience/expertise in facilitating or inhibiting this learning process? Let us start with the second question.

The Role of Experience/Expertise in Learning to Teach a New Course

Nora attempted several mappings of her state of novicedom and expertise using the literature as a guide. Applied to Berliner's (1994) 12 propositions, Nora did not demonstrate expertise except on two: Proposition 3 - Sensitivity to task demands and the social situation when solving problems (17 journal entries), and Proposition 5 - Representing problems in qualitatively different ways than

novices (5 journal entries). She did, however, became acutely aware of his first and last propositions: "Experts excel mainly in their own domain and in particular contexts;" and 12. "Experts appear to be more confident about their abilities to succeed at instructional tasks than are novices." Both were clearly a difficulty in teaching content in which she was not an expert.

Although Berliner's list focuses largely on differences in thinking of experts, we believe the following aspects should be added:

1). Knowledge of pedagogical purpose described by Fernandez-Balboa and Stiehl (1995). This was abundantly evidenced in Nora's journaling, for example: "*I try to make the class my own by having the focus on learning about oneself learning...I want the course to involve active learning, authentic learning, and authentic assessment*" (week 3).

2) Expectation for high levels of accomplishment by students (Elbaz, 1993). Nora's scoring guides emphasized outstanding performance (level 5), rather than the typical illumination of levels 4 and 2 on most rubrics. She expected very high standards, both in terms of her students and herself. She frequently discussed challenging the students and gave them lots of feedback and encouragement. "*I write things like, "I know you can do this. Just try...I keep challenging them. When we discussed our strategies, I asked the group what they learned from each other that they might try*" (week 6).
Anne reminded her "*I am thrilled at how much you are getting from the students as they open up in their journals. Well done!! These are the students to focus on - remember Bob Sylwester said you turn off 10% of students, excite 10% and the rest run along the middle ground.*"
Nora responded, "*I'm not satisfied with only 10% and want the whole ball of wax!*" (week 7).

3). Belief in the ability to change students' beliefs. This aspect brings the expert's thinking into the social, political, and moral dimension described by Ennis (1994), O'Sullivan and Doutis (1994), Pajares (1992), Porter and Brophy (1988), and Welker (1993). Anne kept illuminating this aspect: "*I am interested in differences between teacher's beliefs about student learning and student's beliefs about their learning. Some students do not know any other way than getting grades - therefore giving back to the teacher what she/he has said. Until they are more mature in their thinking about what learning means, they will not cope with teachers like us who are keen to facilitate rather than tip knowledge into heads*" (week 6). Nora believed she could change student beliefs, in spite of the "thorns" she encountered in the class. She tried valiantly to reach these students, adapting instruction to try to meet their needs. Although unsuccessful with four of 82 students who rated her teaching style as unsatisfactory, her overall rating from the class on a scale of 1 to 10, was 8.4.

4. Willingness and ability to learn new things. Fernandez-Balboa and Stiehl (1995) described how expert professors were keenly aware of the constant growth of knowledge in their fields and actively kept up on this changing knowledge base. From Piaget (1981), we could add that to do creative work, experts would need to read widely around their fields as well as in them to enrich the field and be able to transform it. But perhaps experts also need to be able to stretch themselves and learn to develop expertise in new areas as well. Berliner et al (1988) suggested that experts over prepared for teaching new things, and were not able to improvise easily. When expertise becomes equated with rigidity, serious difficulties can arise, particularly when the rapid changes in the world demand flexibility.

Nora also attempted to map her development on the five developmental levels derived from Dreyfus and Drefus's work that Berliner (1994) suggested, but being both expert and novice was confounding. Rather, she found three stages in her own development: Revisiting Novicedom (weeks 1-3), Becoming a Learner (weeks 4-6), and Becoming a Teacher and Learner (Weeks 7-10). Weeks 1-3 were marked by laments about feeling like a novice, as well as many comments about stress and discomfort.

The glimmerings of Stage 2, Becoming a Learner, were triggered by the following events during week 3: "*Ken [a faculty colleague] and I met at the coke machine and we spoke a bit. He told me I should study this process of learning to teach a new course. Asked me if I journalized about it. I told him no, I was too tired after a day. Then I opened your [e-mail] letter and realized I had been journalizing about it. Would you mind if I were to continue this way, and share with you what happens? It's easier for me to tell it to someone then to just write it for myself.*" Anne's response, next day: "*I am excited to be involved in your learning curve...Perhaps there is a book called, Dear Anne: Letters of a Frustrated Excellent Teacher. Remember your natural instincts are excellent teaching, so that looks after itself while you learn to be more comfortable with the subject.*" Nora was beginning to get some successful mode switching from students during this period. It was also the admission at the end of week 3 of the fear underlying the worry: poor student evaluations that could affect a tenure decision. Once the fear was faced, Nora was able to begin the transition to a new level.

The transition to Stage 3, Becoming a Teacher and a Learner, was marked by increasing focus on her students' growth, as well as her own questions arising out of student work. It was facilitated by successfully getting the course reduced to a manageable amount of material, as well as considerable excitement from reading student journals. Once Nora gave herself full permission to be a learner and study the process of teaching the course for the first time, she could enjoy the teaching and learning: "About *aha! moments in the journals, I do find that it is very exciting when students really connect to the purpose of the course and/or to metaphors that enhance their understandings. I get an actual visceral reaction... Feel like I'm dancing around inside my head, full of joy.*"

The seven areas of knowledge described by Shulman (1987) had too many areas to separate effectively, particularly when attempting to consider interacting systems. Most useful were the five descriptors by Fernandez-Balboa and Stiehl (1995) to capture Nora's expertise and to consider each areas as a system: Knowledge about subject matter, knowledge about students, knowledge about instructional strategies, knowledge about teaching content, and knowledge about one's teaching purposes. Nora's areas of expertise were knowledge of teaching purpose and knowledge of instructional strategies. Her beliefs about teaching and learning had been developed over the many years of teaching children and adults, as well as through scholarly activity. She had a hefty "bag of tricks" readily available that included many strategies and principles about teaching. The areas of novicedom were lack of knowledge about subject matter and lack of knowledge about the context. Although she was not familiar with this particular group of students and their diverse programs (both lack of knowledge of context and students), she was keenly aware of students as learners and made their learning about themselves as learners her goal.

Asynchrony was evidenced in the advanced development of some areas of expertise and very little development in the other areas. Like the experts in the Berliner, et al. (1988) study, Nora was extremely stressed in teaching this course, particularly in the first six weeks. As in that study, the combination of not knowing the material well and not knowing the students made Nora feel like she was losing control. In addition, she did not have a grasp of the context, which further contributed to her discomfort. Rather than aiding her feelings of capacity to teach the course, it was as though the areas of expertise were inhibitors, causing dysplasia and almost a break down. Although Berliner et al. hypothesized that having either knowledge of content or students would have boosted confidence, for Nora issues related to social, emotional, and belief systems, external constraints, and mediation were also highly significant.

The interacting systems of the psyche--the knowledge systems, both universal and non-universal, and systems of affect, purpose, and intuition were in conflicting phases. External systems--social, physical, and cultural, initially served as constraints as well. This caused considerable disequilibrium, but for her, eventually greater growth. Most notably, Nora was struggling with feelings of fear that underlay her ability to look at teaching the course as a learning experience, an

important aspect of her emotional system. In addition, because university professors are supposed to be experts (as her thorn continually told her), she was concerned about not giving students what they needed. External constraints of not knowing the students or their context, being overwhelmed by heat and class size, and having tenure decisions looming furthered her worries. Not until the fear was addressed and the focus was shifted to researching her teaching was Nora able to get past the stress. Anne's support as a reflective colleague provided mediation and scaffolding for her growth through supportive affirmation, reflective questions, alternative perspectives, and, future projections (Russell & Cohen, 1997). It was also feedback from growth of students in their journals that helped turn the corner. This process of learning to teach a new course was highly interactive with both students and instructor wrestling with their learning. At last, Nora recognized that this was a learning opportunity which could be studied. She finally gave herself permission to be a learner along with her students.

What Did I (Nora) Learn about Teaching Educational Psychology?
Aside from the obvious greater familiarity with course content and context such as background of students in the course, the following points emerged:

1. I learned about the power of feelings--the social and emotional envelope that frames teaching. Only after I was able to grasp the true feelings was I able to make a shift away from worry of not being successful to focusing more on students and on my own learning and discoveries.

2. I learned that the hardest thing was to change my own beliefs and to model being a learner. Although I wanted students to develop an awareness of their own beliefs, there was a gap between my focus on learning for students and learning for myself. Overcoming the fear of not being an expert was difficult. It took courage to live in the same processes I required of the students. But once I did, our learning became genuine and we all grew.

3. I learned about the power of mediation--having a reflective colleague that encouraged and challenged me and helped me take new perspectives.

4. I learned what an interactive thing the teaching-learning process is--I learned with and from the students, from their feedback and journals. I found the hardest time was when I had no models to give them (not having taught the course before), nor having the scoring guides prepared (couldn't really do this until I had seen who and where the students were), but once I began to get some satisfactory products and share these, and once students caught on, it became exciting

5. I learned that even careful planning with teams of preservice teachers does not ensure a great lesson, although it helped. I learned that students, like myself, often only partially accommodated material, so that what they said they would do in teaching and what they did could be quite different things. I could tell them to focus on their learning, but had not integrated this aspect for myself, for example. They could tell me the specifics of a lesson plan, but when they got up in front of the class, things could fall apart. I also found that asking students what they would have done differently was more powerful than telling them about what I thought.

6. I learned that until I began to understand the context of the particular class (there were two sections, each quite different) I was "stabbing in the dark" and that giving structure to a new course is difficult until one understands the context and content.

7. I learned that I have extremely high expectations of myself and of my students. I was not able to accept less than trying to reach everyone. But I also got extraordinary results. Most of the students in this required course claimed it was harder, but better. They described themselves as exhausted, frazzled, and relieved at the end of the course, but also as stretched,

accomplished, excited, knowledgeable, and stimulated. Most were pleased with their self-studies, describing them as challenging, self-reflective, interesting, enlightening, informative, creative, and fun.

8. I learned that having a "thorn" is a good way of finding alternatives to meet student needs, and that you can't reach everyone all the time.

9. I learned more about the content of educational psychology and that I'd like to teach it again. I would also like to read a lot more in it. In fact, in preparing this paper, I have at least delved deeply into one area of the ed. psych literature!

10. I learned that there are many areas in teaching educational psychology that I would like to research further, as a result of both becoming a learner during the process and through this analysis.

EDUCATIONAL IMPORTANCE OF THE STUDY

An analysis of learning to teach a new course can provide beginning and experienced university instructors and graduate students with a map of how one person has done so, as well as allowing comparison with their own unique learning/ teaching process. Considering teacher expertise applied to a new domain also addresses which features of pedagogical and content knowledge are focused upon, how scaffolding from one or the other occurs, whether the experience is the same as for a novice teacher, particularly in the time constraints of a given course.

In many ways, students in the course and the instructor went through similar stages in their learning journey. Both need mediation, but perhaps for the student, the mentor or coach who has expertise is more important, while for the expert, a reflective colleague is sufficient. However, from this study, we would suggest that novices need both experts to help scaffold their learning and a safe colleague with whom to "let it all hang out." The power relationship in the former can be problematic in this regard. To trust oneself to try something new requires extraordinary courage as well as support from a reflective colleague, which we found that e-mail supported admirably (Russell & Cohen, 1997).

Novice teachers expect to not know it, to make mistakes (although we know this is difficult for some), while an expert expects her classes to "sing." In a changing world where flexibility is essential, university professors may find themselves in unplanned contexts, especially when downsizing or cuts in education budgets occur. They may find that they have to teach in areas other than their own safe ones, particularly as we move from being specialists, say, in science education, learning theories, or moral development, to becoming "teacher educators." Expertise cannot be equated with rigidity. But university culture reinforces the idea of the content expert, so learning and not knowing are too often equated with weakness.

We now recognize the importance of reflection, becoming aware of one's beliefs and constructing one's teaching platform, studying one's practice through action research, and mentoring to prepare novice teachers for the difficult roles they are to assume. (Barone, et al, 1996). We know they need to analyze the complexities of teaching and to understand the social and contextual nature of knowledge construction through their educational psychology classes (Anderson, et al, 1995). But we do not ask the same of professors, nor do we ask educational psychology instructors to learn how to teach these future teachers to use new perspectives.

Although NCATE forces faculty in colleges of education to examine beliefs through preparation of the conceptual framework and knowledge bases, most university instructors do not study their own practice. Recognizing that teachers are learners is needed. To become learners, university professors and their respective departments or colleges need to allow them explore their learning,

to revel in their ignorance, to feel safe in not knowing (Cohen, 1996). Yet often allowing oneself to "play" with one's own learning and to study it is counter-intuitive if not impossible in university cultures, particularly when tenure decisions are based on student evaluations. And until we recognize that learning is socially framed, both for students and teachers, and we address the role of feelings in the learning process, we have not fully understood either educational psychology or the process of developing expertise.

REFERENCES

Anderson, L. M. , Blumenfeld, P., Pintrich, P. R., Clark, C. M., Marx, R. W., & Peterson, P. (1995). Educational psychology for teachers" Reforming our courses, rethinking our roles. *Educational Psychologist, 30*, 143-157.

Barone, T., Berliner, D. C., Blanchard, J., Casanova, U., & McGowan, T. (1996). A future for teacher education: Developing a strong sense of professionalism. In J. Sikula (Ed.), *Handbook of research in teacher education* (2nd ed.) (pp. 1108-1149). New York: Macmillan.

Benz, C. & Blatt, S. J. (1995). Factors underlying effective college teaching: What students tell us. *Mid-Western Educational Researcher, 8*, 27-31.

Berliner, D. C. (1986). In pursuit of the expert pedagogue. *Educational Researcher, 15*, 5-13.

Berliner, D. C. (1992). Telling the stories of educational psychology. *Educational Psychologist, 30*, 143-157.

Berliner, D. C. (1994). Expertise: The wonder of exemplary performances. In J. N. Mangieri and C.C. Block (Eds.), *Creating powerful thinking in teachers and students: Diverse perspectives*(pp. 161-186). Fort Worth, TX: Harcourt Brace.

Berliner, D. C., Stein, P., Sabers, D., Clarridge, P.B., Cushing, K., & Pinnegar, S.(1988). Implications of research on pedagogical expertise and experience for mathematics teaching. In D.A. Grouws & T. J. Cooney (Eds.), *Perspectives on research on effective mathematics teaching* (pp.67-95). Reston, VA: National Council of Teachers of Mathematics.

Blumenfeld, P. C. & Anderson, L. (1996). Editors' comments. *Educational Psychologist, 31*, 1-4.

Carter, K., Cushing, K., Sabers, D., Stein, P. & Berliner, D. (1988). Expert--novice differences in perceiving and processing visual classroom information. *Journal of Teacher Education, May-June*, 25-32.

Cashin, W. E. (1989). Defining and evaluating college teaching. Idea Paper No 21. Manhatten, KS: Kansas State University Center for Faculty Evaluation and Development in Higher Education.

Cochran-Smith, M. & Lytle, S. L. 1993). *Inside/outside: Teacher research and knowledge*. New York: Teachers College Press.

Cohen, L. M. (1994). Mode-switching strategies. In J. Edwards (Ed.), *Thinking: International interdisciplinary perspectives* (pp. 230-240). Melbourne: Hawker-Brownlow.

Cohen, L. M. (1996). Mapping the domains of ignorance and knowledge in gifted education. *Roeper Review, 18*, 183-189.

Cohen, L. M. & Frydenberg, E. (1996). *Coping for capable kids*. Waco, TX: Prufrock.

Cronin, T. E. (1992). On celebrating college teaching. *Journal on Excellence in College Teaching, 3*, 149-166.

BEST COPY AVAILABLE

Cushing, K. S., Sabers, D. S., & Berliner, D. C. (1995). Investigations of expertise in teaching. In A. C. Ornstein & L. S. Behar (Eds.), *Contemporary issues in curriculum* (pp. 120-129). Boston: Allyn & Bacon.

Elbaz, F. (1993). The development of knowledge in teaching: What we can learn from the expert, the novice, and the 'experienced' teacher? In L. Kremer-Hayon, H. C. Vonk, & R. Fessler (Eds.), *Teacher professional development: A multiple perspective approach* (pp. 119-131). Berwyn, PA: Swets and Zeitlinger.

Ennis, C. D. (1994). Knowledge and beliefs underlying curricular expertise. *QUEST, 46*, 165-175.

Fernandez-Balboa, J. M. & Stiehl, J. (1995). The generic nature of pedagogical content knowledge among college professors. *Teaching & Teacher Education, 11*, 293-306.

Gardner, H. (1983). *Frames of mind*. New York: Basic Books.

Gibbs, G. (1995). Promoting excellent teaching is harder than you'd think. A note from an outside observer of the roles and rewards initiative. *Change, 27* (3), 16-20.

Glaser, R. (1987). THoughs on expertise. In C. Schooler & K. Wl Schaie (Eds.), *x* (pp. 81-94). Norwood, NJ: Ablex.

Gowan, J. C. (1972). *The development of the creative individual*. San Diego, CA: Robert Knapp.

Khatena, J. (1972). *Gifted: Challenge and response for education*. Itaska, IL: F.E. Peacock.

Land, G. T. & Kenneally, C. (1977). Creativity, reality, and general systems: A personal viewpoint. *Journal of Creative Behavior, 11*, 12-35.

Livingston, C. & Borko, H. (1989). Exper-novice differences in teaching: A cognitive analysis and implications for teacher education. *Journal of Teacher Education*, July-August, 36-42.

Lowman, J. (1995). *Mastering the techniques of teaching* (2nd ed.). San Francisco: Jossey-Bass.

Murray, F. B. (1995). Meno and the teaching of teachers to teach excellently. Journal of Teacher Education, 45, 379-390.

Murray, F. B. (1996). Educational psychology and the teacher's reasoning. In F. B. Murray (Ed.), *The teacher educator's handbook: Building a knowledge base for the preparation of teachers* (PP. 419-437). San Francisco: Jossey Bass.

O'Sullivan, M. & Doutis, P. (1994). Research on expertise: Guideposts for expertise and teacher education in physical education. *QUEST, 46*, 176-185.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*, 307-332.

Piaget, J. (1981). Creativity: Moving force of society. [Talk presented at 1972 Eisenhower Symposium, Johns Hopkins University, Baltimore, MD]. Appendix to J. M. C. Gallagher & D. K. Reid, *The learning theory of Piaget and Inhelder*. Monterrey, CA: Brooks/Cole.

Pinard, A. & Laurendeau, M. (1969). "Stage" in Piaget's cognitie developmental theory: Exegesis of a concept. In D. Elkind & J. Flavell (Eds.), *Studies in cognitive development* (pp. 121-170). New York: Oxford University Press.

Renninger, K. A. (1996). Learning as the focus of the educational psychology course. *Educational Psychologist, 31*, 63-76.

Russell, A. & Cohen, L. M. (1997). E-mail reflections in a cyberspace cemetary. In R. Robinson (Discussant), *Patterns and problems in electronic communications: Teacher and student reactions* (Division C). (Unpublished paper). Chicago: American Educational Research Association, March 26.

Schuell, T. J. (1996). The role of educational psychology in the preparation of teachers. *Educational Psychologist 31*, 5-14.

Shirk, J. & Miller, M. (1994). Linking the faculty recognition process to teaching excellence. *In proceedings of the National Conference on Successful College Teaching*. Orlando, FL: February 26-28.

Lee S. Shulman (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 19* (2), 4-14.

Silverman, L. K. (1993). The gifted individual. In L. K. Silverman (Ed.), *Counseling the gifted and talented* (pp. 3-28). Denver, CO: Love Publishing.

Stewart, R. A., & Barraclough, R. A. (1992). *Immediacy and enthusiasm as separate dimensions of effective college teaching: A test of Lowman's model on student evaluation of instruction and course grades*. Paper presented at the Annual Meeting of the Western Speech Commuication Association (634e). Boise, ID, February 21-25.

Stringer, E. T. (1996). *Action research*. Thousand Oaks, CA: Sage.

Swanson, H. L., O'Conner, J. E., & Cooney, J. B. (1990). An information processing analysis of expert and novice teachers' problem solving. *American Education Research Journal, 27*, 533-556.

Welker, R. (1993). *The teacher as expert: A theoretical and historical examination*. Albany: State University of New York Press.